Write your name here

Surname	Other names

Edexcel GCE

Centre Number	Candidate Number

Music Technology

Advanced
Unit 4: Analysing and Producing

Monday 21 June 2010 – Afternoon
Time: 2 hours (plus 10 minutes setting up time)

Paper Reference
6MT04/01

You must have: CD ROM containing component tracks, blank CD for burning finished mixes, headphones or monitor speakers, computer workstation and music production software.

Total Marks

Setting up time

1. Open a new project in the music production software using 16 bit/44.1kHz sample rate.
2. Save the project as **'unit4_your candidate number' (eg *unit4_1234*)** in the folder designated by your centre.
3. Set the metronome to 120 bpm.
4. Import Track 1 from the CD ROM to the first available mono audio track in the audio production software.
5. Ensure that the bass part is audible and plays in time with the metronome. The music begins in bar 2.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Write your answers to Section A in the spaces provided in this question paper.
- Save your audio files for Questions 2 (a) and 3 (c and d) in Section A, and Question 5 in Section B to your project folder within the 2 hours examination time.
- You must ensure that the left and right earpieces of your headphones are worn correctly.
- Access to the internet or local network is **not** permitted.

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are those where the quality of your written communication will be assessed
  – *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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SECTION A

Answer ALL questions.

Write your answers in the spaces provided or, where appropriate, choose an answer and put a cross in the box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Listen to the bass part that you have imported and compare it with the score opposite.

(a) What key is the music in?

(1)

.....

(b) Look at the score between **bars 8–25**. There are **two** errors in pitch where the score is incorrect. Identify the **two** errors by circling them in the score. Notate the correct pitch on the blank stave above. An example of a pitch error is given in bar 4.

(4)

(c) Look at the score between **bars 8–25**. There are **two** errors of rhythm where the score is incorrect. Identify the **two** errors by circling them in the score. Notate the correct rhythm for the **whole bar** on the blank stave above. An example of a rhythm error is given in bar 2.

(4)

(d) (i) How was the bass track recorded? Put a cross in the correct box:

(1)

A Ambient mic'ed ☒

B Close-mic'ed ☒

C Double tracked ☒

D MIDI sequenced ☒

(ii) How is the slide achieved in bar 25?

(1)

.....

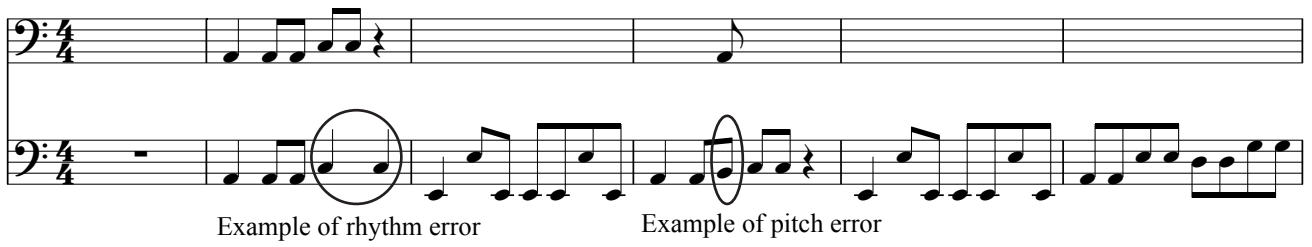
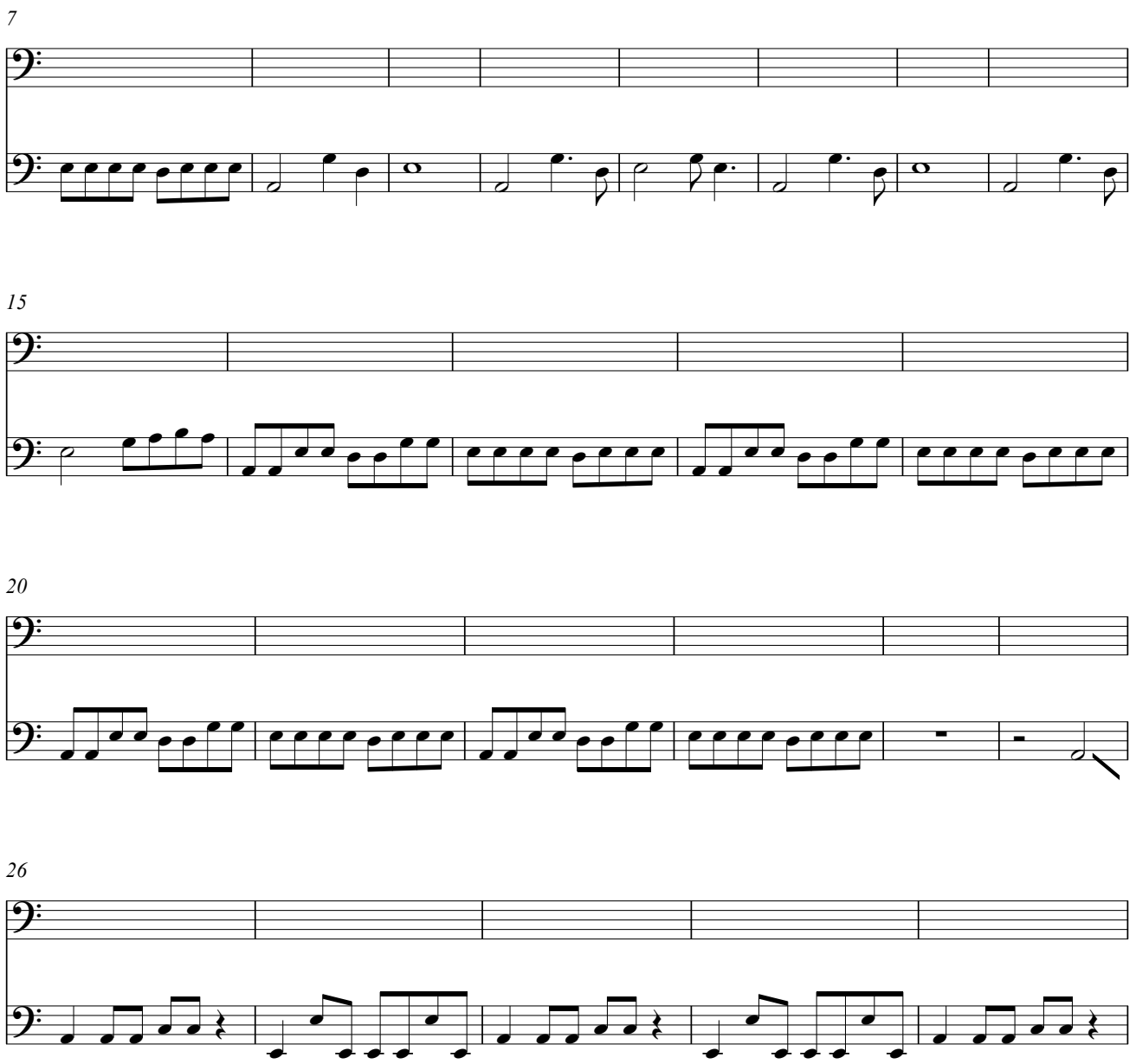
*(iii) Bars 2–5 and 26–end of the bass part have a brighter tone than bars 6–23. Describe how this is achieved.

(2)

.....

.....

(Total for Question 1 = 13 marks)



H 3 6 9 9 8 A 0 3 1 2

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2 Import track 2 from the CD to a new stereo audio track in your music production software. This track is a complete drum pattern. Ensure that the beginning of this audio track is aligned with the start of bar 1. The drums begin playing in bar 2.

Import track 3 from the CD to a new mono audio track in your music production software. This track is the vocal part. Ensure that the beginning of this audio track is aligned with the start of bar 1. The singing begins in bar 8.

(a) Using appropriate production and editing tools, remove any unwanted noises from the vocal recording.

(4)

Solo the edited vocal track. Turn off the metronome click.

Bounce/export the edited vocal track as a <u>single</u> 16 bit/44.1kHz stereo .wav file to the designated folder on your computer.

Name it 'task1_ your candidate number' (eg *task1_1234*).

***** (b) What would a compressor do to help this vocal part sit better in the mix?

(2)

*(c) In the table below, give three controls commonly found on a compressor and briefly describe how they affect the signal. An example is given.

Control	Description
Threshold	The level above which the compression is applied. A lower threshold compresses more of the signal.
(1)	(2)
(1)	(2)
(1)	(2)

(Total for Question 2 = 15 marks)

3 Import tracks 4, 5 and 6 from the CD into the music production software. These will be used to form a complete electric guitar part.

(a) These tracks were recorded using DI.

(i) What does DI stand for?

(1)

(ii) Briefly describe how this would be achieved.

(1)

(b) An amplifier simulator has been applied to the DI guitar recording. Complete the table below to describe how you would mic an amplifier to achieve a similar distorted tone to that heard in tracks 4 and 6, giving reasons for your choices.

	What you would choose	**Reason for choice**
Microphone type	Dynamic	• can withstand high SPL • coloured frequency response gives a punchy sound
Microphone polar pattern	**(1)**	**(2)**
Microphone placement	**(1)**	**(2)**

(c) Assemble the guitar part by copying and pasting together tracks 4, 5 and 6 from the CD, as shown in the table below.

Bar range	CD track
1	silent
2–5	Track 4
6–7	silent
8–23	Track 5
24–25	silent
26–33	Track 4
34–end	Track 6

(6)

(d) Hiss is increased when using distortion on the electric guitar. This is particularly evident at the end of the song when the electric guitar dies away. Using automation, put a fade-out on the electric guitar part so that the hiss is not intrusive and the electric guitar still appears to fade naturally.

(4)

Solo the completed guitar part. Turn off the metronome click.

Bounce/export the completed guitar part as a single 16 bit/44.1kHz stereo .wav file to the designated folder on your computer.

Name it 'task2_ your candidate number' (eg *task2_1234*).

(Total for Question 3 = 18 marks)

4 Answer EITHER Question 4(a) or 4(b). You are advised to keep your answer to a maximum of 200 words. You may write in continuous prose, bullet points or use a table to communicate your answer.

Indicate which question you are answering by marking a cross in the box ☒.
If you change your mind, put a line through the box ☒
and then indicate your new question with a cross ☒.

Question 4(a) ☒ **Question 4(b)** ☒

EITHER

***(a)** The digital sampler has transformed the sonic palette available to musicians and producers by allowing any sound to be incorporated into a recording with accurate control. Describe what a sampler is and how sampling technology has developed from the 1980s to the present day. You should refer to technical specifications of sampling equipment in your answer.

OR

***(b)** Without the invention of the electric guitar, rock music would probably not exist as we recognise it. Describe the features found on an electric guitar and give a technical explanation of how an electric guitar works.

(Total for Question 4 = 16 marks)

TOTAL FOR SECTION A = 62 MARKS

SECTION B

5 You should now have the following tracks on the computer: bass, drums, vocals and guitar. You may wish to split the guitar part into two tracks, one clean and one distorted, so you can process the different tones separately.

Produce a final balanced stereo mix with the following features:

(a) Compress the **guitar and vocal** tracks.
- The compression should suit the style of the music.
- Ensure that the dynamics of the performance are controlled and do not jump out of the mix.
- Do not over compress the tracks.

(3)

(b) EQ the **vocals**.
- Give them a slightly brighter tone to bring them forward in the mix.

(3)

(c) Apply stereo double tracking to both the clean and distorted **guitar parts** throughout.
- Pan the double tracked guitar so that it is suitably wide, but not fully opposite panned.

(3)

(d) Apply reverb to **each** of the four tracks.
- 1.5 second reverb time.
- The reverb should not be intrusive.
- The vocals should have the most reverb, the bass should have the least.

(3)

(e) Balance the mix.
- The balance should suit the style of the music.
- Ensure that all of the tracks can be heard clearly.

(3)

(f) Produce a final stereo mix.
- You will need to fade the bass part at the end to match the fade on the guitar part.
- Ensure that the mix output is at as high a level as possible.
- It should be free from distortion.
- **Do not** limit or compress the mix output.
- Ensure that the beginning and end of the mix are not cut off.
- Silences at the beginning and end should not exceed **one** second.

(3)

Turn off the metronome click.

Bounce/export the completed mix as a <u>single</u> 16 bit/44.1kHz stereo .wav file to the designated folder on your computer.

Name it 'task3_ your candidate number' (eg *task3_1234*).

(Total for Question 5 = 18 marks)

TOTAL FOR SECTION B = 18 MARKS
TOTAL FOR PAPER = 80 MARKS

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